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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,492	06/28/2001	Alan Anderson Hoover	RCA 89855	4186

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EXAMINER

MEI, XU

ART UNIT	PAPER NUMBER
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2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	09/869,492		HOOVER, ALAN ANDERSON	
	Examiner		Art Unit	
	Xu Mei		2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to the applicant's amendment dated 10/25/2006.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-3 and 15-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Klayman (US Patent 6,597,791).

Art Unit: 2615

Regarding Claim 1, Klayman discloses a stereophonic expansion circuit, comprising: means for processing (L+R) and (L-R) signals (16 and 32), and means for providing tonal compensation for the (L+R) signal by increasing an amplitude of the (L+R) signal (36) in a bass frequency band relative to a mid-range frequency band.

Regarding claim 2, the tonal compensation for the (L+R) signal as shown by Klayman for increasing the amplitude of the (L+R) signal (36) is also further provided in a tremble frequency band relative to a mid-range frequency band.

Regarding Claim 3, Klayman further discloses the (L-R) signal of the stereophonic expansion circuit is processed by increasing an amplitude of the (L-R) signal in the mid-range frequency band (38 and 40).

Regarding Claim 15, Klayman discloses a method for providing stereophonic expansion, comprising: generating (L+R) and (L-R) signals (16 and 32), and providing tonal compensation for the (L+R) signal by increasing an amplitude of the (L+R) signal in a treble frequency band relative to a mid-range frequency band (36).

Regarding claim 16, the tonal compensation for the (L+R) signal as shown by Klayman for increasing the amplitude of the

Art Unit: 2615

(L+R) signal (36) is also further provided in a bass frequency band relative to a mid-range frequency band.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klayman (US Patent 6,597,791)

Regarding Claim 4, Klayman does not explicitly disclose wherein the (L+R) signal is tonally compensated to be complementary to a frequency curve of the (L-R) signal. Klayman discloses that adjustment of the devices 36 and 38 is typically performed manually by a user control where an increase in the level of the sum signal emphasizes the audio signal appearing at a center stage position between a pair of speakers. Conversely, an increase in the level of the difference signal emphasizes the ambient sound information creating the perception of a wider

Art Unit: 2615

sound image (Col. 4, lines 42-53). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to produce complementary curves to produce a sound image for a stereophonic signal.

Regarding Claim 10, Klayman discloses a stereophonic expansion circuit having (L+R) and (L-R) signal paths (116 and 32) including circuitry operative to provide tonal compensation for the (L+R) signal path by increasing an amplitude of an (L+R) signal in a bass frequency band and a treble frequency band relative to a mid-range frequency band (36), and wherein the tonal compensation of the (L+R) signal path is approximately complementary to a tonal frequency response of the (L-R) signal path. Although Klayman does not disclose the tonal compensation of L+R signal path is approximately complementary to a L-R frequency response, Klayman discloses that adjustment of the devices 36 and 38 is typically performed manually by a user control where an increase in the level of the sum signal emphasizes the audio signal appearing at a center stage position between a pair of speakers. Conversely, an increase in the level of the difference signal emphasizes the ambient sound information creating the perception of a wider sound image (Col. 4, lines 42-53). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to

Art Unit: 2615

produce complementary curves to produce a sound image for a stereophonic signal.

6. Claims 5-9, 11-14, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klayman as applied to claim 1 above in view of Lendaro et al. (Hereinafter "Lendaro") (US Patent 5,208,493).

Regarding Claims 5, 11, and 17 Klayman discloses a device as stated above but does not disclose tonal compensation can be switched between "on" and "off" modes. Lendaro discloses a stereo expansion selection switch (Figs. 1-3) to allow a user to selectively actuate or deactuate the stereo expansion circuitry of an audio system (Col. 1, lines 6-9). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an "on" and "off" switch in order to allow a user to selectively actuate or deactuate the stereo expansion circuitry of an audio system as taught by Lendaro.

Regarding Claims 6, 12, and 18 Lendaro further discloses stereophonic expansion can be switch between "on" and "off" modes and the tonal compensation is switched "off" with the stereophonic expansion is switched "off" (Figs. 1-3).

Art Unit: 2615

Regarding Claims 7, 13, and 19 Klayman further discloses gain boost (Figs. 3 and 5).

Regarding Claims 8, 14, and 20 Lendaro further discloses the tonal compensation and expansion are "off" when switched "off".

Regarding Claim 9, Klayman further discloses the tonal compensation for the (L+R) signal is provided with respect to the (L-R) signal (Fig. 1, phase shifter 14).

Response to Arguments

7. Applicant's arguments filed 10/25/2006 have been fully considered but they are not persuasive.

Applicant mainly argued that "Klayman fails to teach or suggest, *inter alia*, "means for providing tonal compensation for the (L+R) signal by increasing an amplitude of the (L+R) signal in a bass frequency band relative to a mid-range frequency band" as recited in claim 1, or "providing tonal compensation for the (L+R) signal by increasing an amplitude of the (L+R) signal in a treble frequency band relative to a mid-range frequency band" as recited in claim 15". The Examiner disagreed. Klayman discloses the signal level adjusting device 36 is typically adjusted manually by a user according to his/her personal preferences by increasing the level of the sum signal

Art Unit: 2615

(i.e., L + R signal), this would have inherently increasing an amplitude of the (L + R) signal in a bass or tremble frequency band as claimed. The increase in the bass or tremble frequency band of the (L + R) signal provided by signal level adjusting device 36 is relative to a mid-range frequency band of the signal since the broadly recited claims fail to provide absolutely any specific details regarding of how such adjustment are being made between the two frequency bands as claimed. Therefore, these broadly recited and argued limitations are met by Klayman. And the rejection is maintained.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


Art Unit: 2615

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xu Mei whose telephone number is 571-272-7523. The examiner can normally be reached on Monday-Friday (9:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Xu Mei
Primary Examiner
Art Unit 2615
01/16/2007